

Physics 108

Homework 6

1. $1 \text{ AU} = 1.496 \times 10^{11} \text{ m}$

$1 \text{ ly} = 9.460 \times 10^{15} \text{ m}$

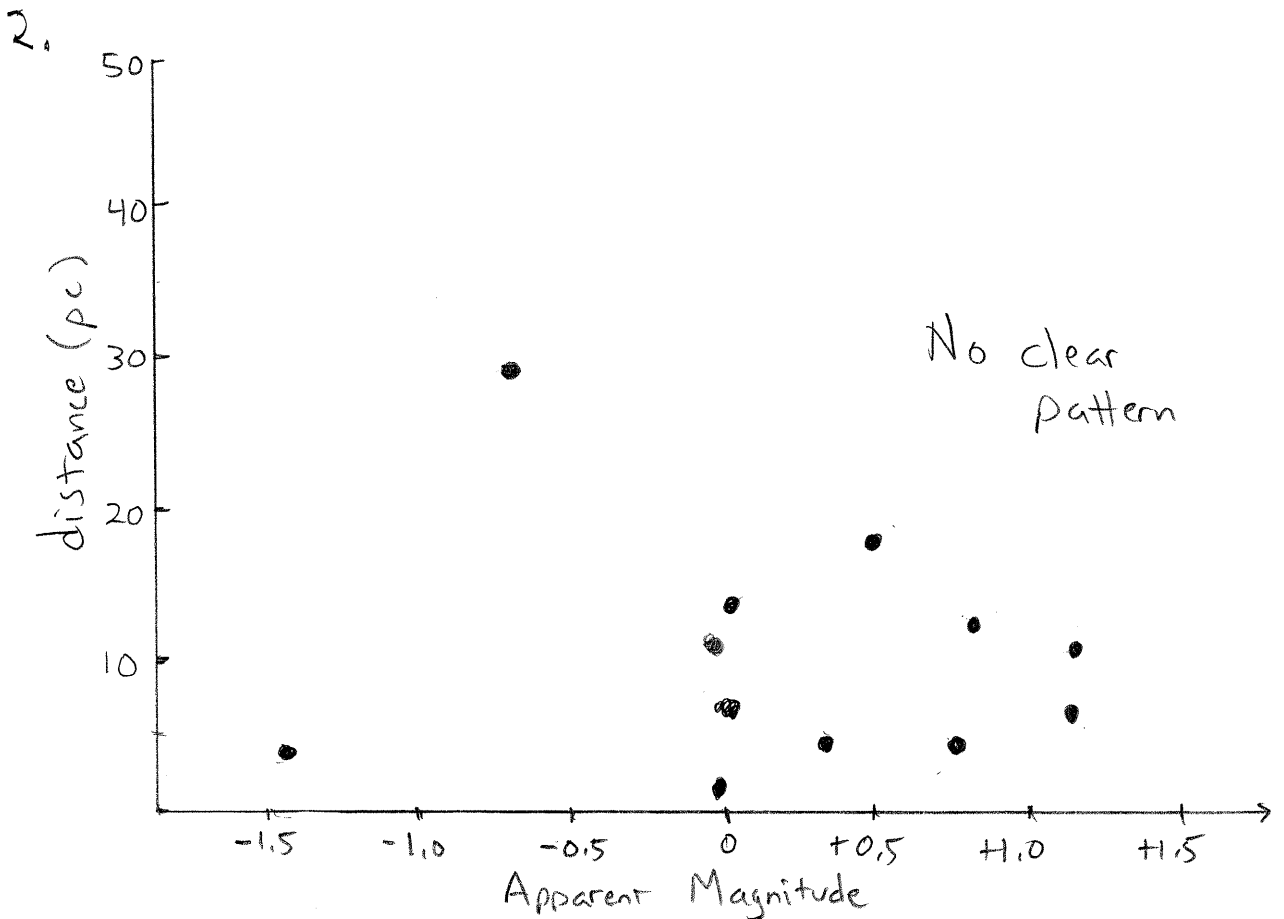
So

+5

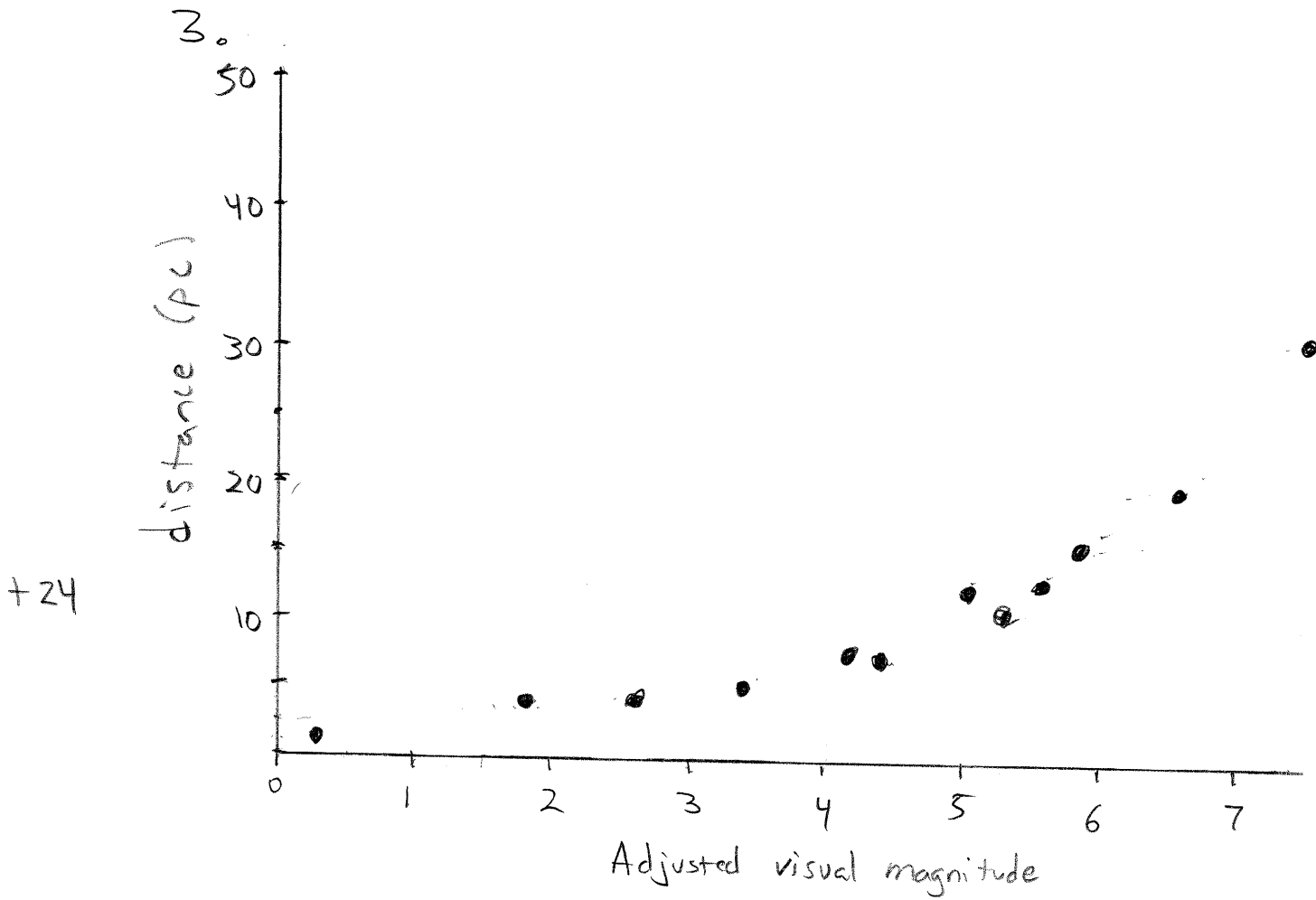
$$100,000 \text{ AU} \times \frac{1.496 \times 10^{11} \text{ m}}{1 \text{ AU}} \times \frac{1 \text{ ly}}{9.460 \times 10^{15} \text{ m}}$$

$$= 1.58 \text{ ly}$$

$$\approx 1.6 \text{ light years}$$



+2
+24



+3

There is a clear pattern.
 If we could fit the best fit curve to the data we could determine distance from the adjusted visual magnitude.

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